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# 9-1-1

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# RHODE ISLAND Emergency 9-1-1 System

BY MIKE SCOTT

**T**he state of Rhode Island's Emergency 9-1-1 center has used its small size to its advantage. And as a result, the state has developed an integrated 9-1-1 network that is a model for other American states to follow.

First developed approximately 15 years ago with numerous revisions made to the E9-1-1 system in the intervening years, Rhode Island is just one of two states (New Hampshire is the other) to have a statewide 9-1-1 network. With a population of just over 1.2 million, the small size of the state and the fact that it includes just 39 communities makes this feat possible.

But a small size isn't the only requirement needed to make a statewide 9-1-1 system possible. In fact much larger states could also incorporate this plan as a way to become more efficient and cost-effective, according to Rhode Island 9-1-1 Director Ray LaBelle. The key is maintaining a high standard of communication where all state, county and local 9-1-1 centers are on the same page.

"Having a statewide system eliminates a lot of headaches," LaBelle said.

As a result, the benefits of a statewide 9-1-1 system clearly outweigh the negatives, according to LaBelle. For example in the case of an epidemic or outbreak, the Rhode Island 9-1-1 call center can notify all state and local agencies instantaneously with true interconnectivity.

"We know all the agencies at the local, state and federal levels who we deal with and since we handle all the calls, we are kept in the loop," said LaBelle.

The state's 9-1-1 center includes a civil defense radio system, interconnectivity between all local police and fire



PHOTOS: RHODE ISLAND 9-1-1

**Comprised of 50.6 staff positions, the Rhode Island 9-1-1 call center includes 37 call takers and seven supervisors, and answers all 9-1-1 calls statewide.**

departments and close communication with FBI and other federal agencies. Recently an 800 MHz radio was installed in the center to connect all agencies seamlessly.

In addition, the department has been Phase 2 compliant for over two years. A PSAP selected router allows the communications center to bypass phone companies when appropriate and the state maintains its own wireless database.

"We have technological challenges but we always have the latest in technology thanks to our (vendor) said LaBelle, referring to New Hampshire based AK Associates. "The fact they engineered our entire system and keep up with all the technological trends, it makes it possible for us to concentrate on our jobs."

One of those technological updates is

voice-over Internet Protocol (VoIP or IP for short) which was first used by the Rhode Island 9-1-1 center in October 2004, making it one of the first communication centers in the country to utilize this technological marvel.

As a result of a successful collaboration with Rhode Island's Emergency 9-1-1, Edison, N.J. based Vonage was able to deliver both caller's location and call back number to 9-1-1 emergency services personnel for 9-1-1 calls placed using Vonage broadband phone service. Krause also worked closely with the provider of broadband phone service to make this happen.

Rhode Island was the first state to implement this Phase II technology on a statewide basis and as a result it was the world's first comprehensive VoIP E9-1-1 solution. The benefit to Rhode Island



residents is that they now receive a true E9-1-1 service on par with a traditional "wired" phone system, regardless of which number they have selected for use with their VoIP phones.

"Instead of retrofitting the standard ALI system, we provide a direct link to circumvent the phone company when necessary," said Krause. "In the case of Vonage, they had trouble connecting to the phone company's selective router but we have that capability and it works 100 percent of the time."

When Vonage customers dial 9-1-1, the call is routed over Vonage's 9-1-1 server using industry standard SIP protocol. The Vonage server then queries one of its technology partners Intrado, a leading provider of 9-1-1 systems and services, for routing instructions. The call is then directed to the selective router that serves the Rhode Island Public Safety Answering Point (PSAP).

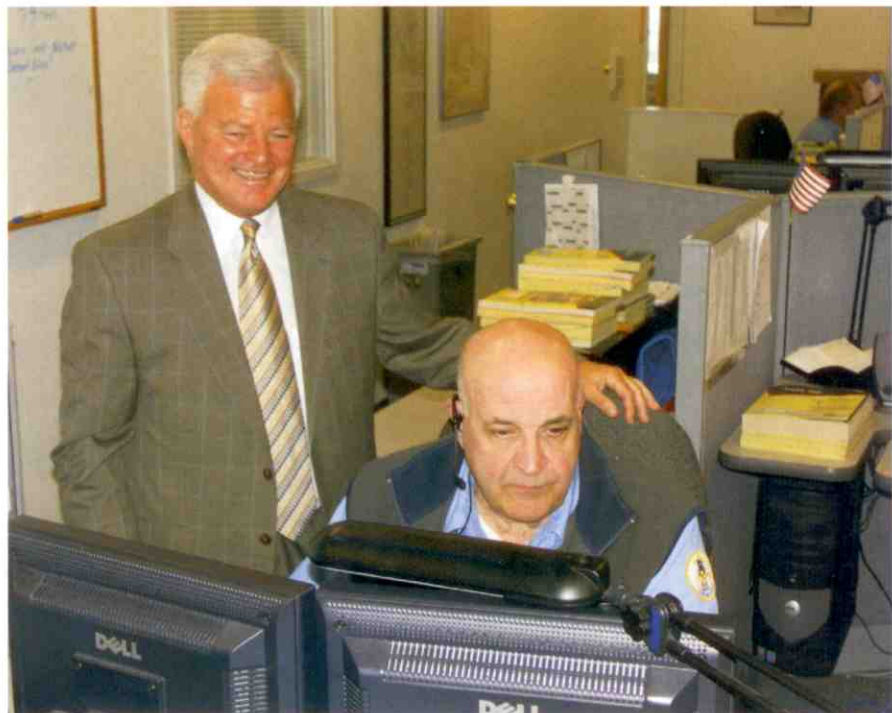
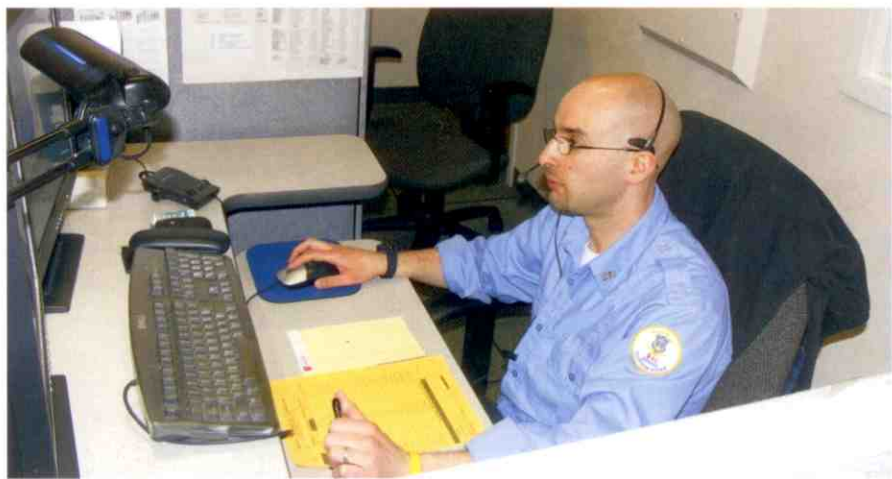
Simultaneously, Intrado places the customer's address and telephone number into the Automatic Location Information (ALI) server. The supplementary special key unique to the call is included in signaling, and allows the PSAP 9-1-1 operator to pull the customer's address and phone number from the ALI database.

Vonage and Intrado are working with other states to provide similar solutions and intend to roll them out market by market.

"Providing location and callback data from broadband telephony calls is a major step in providing our customers and the residents of Rhode Island customers with a true Emergency 9-1-1 solution on par with traditional telephone service," said Vonage Holdings Corp. Chairman and CEO Jeffrey Citron.

"The state of Rhode Island has shown their leadership by being the first state to ensure that Internet-based communications services can interoperate with Public Safety Answering Points," he said.

It is important to note that the Rhode Island communications center doesn't dispatch field personnel but instead transfers orders. LaBelle admits having dispatch powers would give the communications center "total control." Yet the relationship with secondary PSAPs (72 statewide) and the communications with these PSAPs eliminate



**Top: One of Rhode Island's dispatchers takes a call. Each of the state's 39 local communities has a 9-1-1 coordinator so that the lines of communication are always open. Above: Rhode Island 9-1-1 Director Ray LaBelle and one of his dispatchers. In 2004, the center took more than 536,000 calls, or approximately one call for every two state residents.**

any discomfort that results from a loss of control.

It is quite possible that traditional dispatching duties will be added to the center's plate in the coming years.

"We'd like to be able to dispatch at some point because it would allow us to have more control," said LaBelle.

But the Rhode Island 9-1-1 communications center maintains control on most other responsibilities and its organizational skills have helped it to mold into a statewide network over the last decade and a half. Anything added to the 9-1-1 network requires approval from LaBelle.

With its location on the Atlantic Ocean, the center works closely not only with statewide sheriff's, police, fire and EMS departments, but it maintains a close relationship with the U.S. Coast Guard and communicates consistently about latitude and longitude locations for incident based reporting.

Maintaining these open lines of communication with federal agencies such as the U.S. Coast Guard and the FBI have also been relatively painless because of the statewide 9-1-1 system in place.

Still challenges do remain. LaBelle said that one would be the purchase and installation of a comprehensive CAD



## Rhode Island E9-1-1 Uniform Emergency Telephone System Division

Rhode Island is one of two states in the country to provide Enhanced 9-1-1 emergency services on a statewide basis. Equipped with 14 workstations and a staff of 50, Rhode Island E9-1-1 Uniform Emergency Telephone System Division is at the forefront of using technology to better serve its citizens and lower operational costs.

Rhode Island E9-1-1 installed an emergency call taking and radio dispatch system from CML Emergency Services that included onsite selective router capabilities. According to Ray R. LaBelle, executive director of the statewide emergency telephone system, the selective router combines automatic number identification (ANI) controllers, automatic location identification (ALI) controllers, and automatic call distribution in a single appliance. "It's less expensive and gives us total flexibility."

Moving to the new system was smooth and trouble-free. Not one 9-1-1 call was missed during the implementation.

The Rhode Island E9-1-1 system uses dedicated trunks connected to the selective router to process incoming emergency calls from wireline, cellular, and voice over IP (VoIP) phones. Upon receiving a 9-1-1 call, the system identifies the type of call (for example, Verizon wireless), automatically retrieves the caller's name and location information, and transfers the call to the appropriate agency for response. Because the system does not require ANI and ALI controllers at every PSAP site, the state saves millions of dollars annually.

Having its selective router onsite allowed Rhode Island E9-1-1 to bypass the phone company when implementing Wireless Phase II. "The phone company would have charged a substantial amount of money to provide Phase II compliance," says Arthur Kraus of AK Associates, Rhode Island E9-1-1's technical consultant. "Owning the equipment enabled Rhode Island E9-1-1 to become Phase I and Phase II compliant without paying one additional cent."

Kraus adds, "With technology changing rapidly, a 9-1-1 system must be flexible to grow as needs change. It's faster and less expensive to deploy new solutions on a 9-1-1 system not dependent on a phone company infrastructure. Rhode Island E9-1-1 did that and became one of the first agencies in the country to implement Wireless Phase I, Wireless Phase II, and VoIP."

Rhode Island E9-1-1 continues to innovate to better serve citizens. For example, the agency has implemented mapping systems and georeferenced images that give first responders a clearer picture of incident locations. Rhode Island was also the first state in the nation to implement technology that tracks VoIP-initiated 9-1-1 calls.

IP technology is becoming increasingly important in Rhode Island E9-1-1's strategy. Plans are underway to implement a backup 9-1-1 system using IP connections. "IP is the way to go in the future. The technology is cost-effective to implement and manage and gives public safety the flexibility it needs," Kraus says.

LaBelle is pleased with the results. "We know our 9-1-1 system is as good as or better than most emergency systems in the country. It's gratifying that we are able to provide the citizens of Rhode Island with 9-1-1 service that's second to none."

*- by Verna Bartlett, Director of Product Marketing, CML Emergency Services, and Morgan Wright, Global Industry Solutions Manager, Justice and Public Safety, Cisco Systems Inc*

system in the coming months that will further enhance the department's capabilities. While a vendor is yet to be selected, the new CAD system will further advance the E 9-1-1 center's mapping capabilities while improving the real-time reporting function of the department.

Outsiders might think that because of the integrated statewide system, training new employees on the technology can be particularly burdensome. But

while training is extensive, LaBelle said that it is not because of the statewide integration but because of the inherent importance placed on learning how to work in the public safety sector.

Indeed, training is extremely comprehensive for new 9-1-1 employees. LaBelle said the training program is a six-month process whereby new employees will spend six weeks on each shift so they meet all staff personnel and engage in countless training sessions conducted

by everyone from EMS field staff to priests on medical, social and even political issues.

After a length probationary period, the individual becomes a full-time staffer although LaBelle said the program isn't comprehensive because the center handles statewide calls.

"We just want our new employees to be trained as thoroughly as possible and this training period is a proven process," he said. "In our job, one mistake can cost lives."

LaBelle said other small states considering a move to a statewide 9-1-1 network should seriously consider it even if it causes short-term headaches. He admits that changing to a statewide network today would be more complicated than it was 17 years ago because of the incredible advancements in technology but that these challenges shouldn't hinder a move.

"Once people take possession of new responsibilities, it becomes their project and it is difficult for them to give up

*(continued on page 55)*

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## RHODE ISLAND

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those responsibilities," said LaBelle. "I would advocate a move to a statewide system if its size allows it to be feasible because you know what is happening on a statewide level and that just improves the services we bring to our residents."

Kraus, who works with clients across the country, said the ability of LaBelle to have complete control over the statewide 9-1-1 network is beneficial and helps to make the statewide system run. Kraus said states of any size could incorporate a

statewide 9-1-1 system from a technological standpoint but he believes the political nature of law enforcement is the biggest hindrance.


"It's not the size of the state or the number of calls that make it unfeasible," said Kraus. "I could connect all of New England to one system but there are inherent barriers to making that possible such as existing contractual agreements. Rhode Island has done a great job overcoming all that."

Kraus said local or state entities that desire to merge its 9-1-1 system with other entities must purchase flexible equipment that allows users to bypass the basic platform when necessary. One common piece of 9-1-1 equipment should be able to handle wireless, voice over IP and landline functions on dedicated trunks.

And most importantly Kraus says, work with a vendor or specialist who is an expert at designing a 9-1-1 technical system.

"Don't put all your data on the same trunk and have multiple databases," said Kraus. "That way you won't be held hostage by a 9-1-1 provider." ■

*Mike Scott is a freelance writer for several national and local magazines and newspapers. He lives in White Lake, Michigan and can be reached at [Mas1774@yahoo.com](mailto:Mas1774@yahoo.com)*



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